

TRABELSI AJILI Mehdi

Embedded Software and Hardware Engineer



Work Experience

- **Part-time Software/Hardware Developer**
Sony Computer Science Laboratories, Inc., Tokyo, Japan
Research in Solutions for Embedded Systems
- **Part-time Software/Hardware Developer**
BEST PATH RESEARCH, Tokyo, Japan
Development of AI and Robotics projects
- **Research Assistant**
Tokyo Institute of Technology, Tokyo, Japan
Neural Network Implementation on FPGA and Embedded Systems
- **Part-time Freelance Coding Instructor**
Saturday Kids, Tokyo, Japan
- **Specialist / Electrical Engineer**
Ferchau Engineering / Continental GmbH, Schwalbach, Germany
Embedded and Server Development for automotive Test Systems
- **Embedded Systems Engineer**
iSYS RTS GmbH, Munich, Germany
Embedded Test Automation, System Design, Infotainment
- **Internship, FPGA Developer**
Wavesens Electronics Gbr, Munich, Germany
Digital Design and Implementation of an RF-Transmitter on FPGA
- **Working Student, Embedded Systems**
Motius GmbH, Munich, Germany
Implementation of a Gesture Control Sensor in Vehicles
- **Research Internship, Real-time Systems**
Institute of Robotics and Embedded Systems at TUM, Munich
Evaluation of Linux RTOS in a KVM Virtual Machine
- **Master Thesis, Robotics and Real-time Communication**
Fukushima Robotics Lab at Tokyo Institute of Technology, Japan
Real-Time Communication Improvement of an Earthquake Simulator
- **Research Internship, Hardware/Software Design**
Institute for Cognitive Systems at TUM, Munich, Germany
Design of an Interfacing Mechanism between ARM CPU and FPGA
- **Bachelor Thesis, Real-time Systems**
Institute for Real-Time Computer Systems at TUM, Munich, Germany
Improving the Xen Hypervisor to support automotive Real-Time Tasks
- **Research Internship, C++ Software Development**
Institute for Electronic Design Automation at TUM, Munich, Germany
Developing a C++ Parser for EDA Transistor Simulation



Education

- **International Graduate (Doctoral) Program**
Tokyo Institute of Technology, Tokyo, Japan
- **Master of Science Electrical Engineering**
Technische Universität München (TUM), Munich, Germany
- **TUMExchange International Exchange Program**
Tokyo Institute of Technology, Tokyo, Japan
- **Athens Exchange Program**
Mines Paris Tech, Paris, France
- **Bachelor of Science Electrical Engineering**
Technische Universität München (TUM), Munich, Germany



Certifications

- DeepLearning.AI TensorFlow Developer, Specialization on Coursera (2021)
- TensorFlow: Data and Deployment, Specialization on Coursera (2021)
- Introduction to the Internet of Things, Courses on Coursera (2015—2016)



IT Skills

- Operating Systems and Virtualization
Windows, Linux, FreeRTOS, Xenomai, PetaLinux, Yocto, Xen Hypervisor, KVM, Android, ROS
- Programming and Development
C, C++, Python, Matlab, openCV, Windows Batch, Linux Bash, Docker, Anaconda, Jupyter, VSCode, git, HTML/CSS, PHP, Drupal
- Circuit Design and Simulation
VHDL, Verilog, HLS, Xilinx Vivado, Xilinx Vitis, LTspice, Cadence Virtuoso
- Deep Learning
Tensorflow, Keras, Tensorflow Lite, Caffe, Xilinx Vitis AI, TVM, HLS4ML
- Office and Project Tools
Word, PowerPoint, Excel, Publisher, Visio, Latex, JIRA, Slack
- Hardware and Communication
Xilinx Zynq SoC, Arduino, Raspberry Pi, Edge TPU, CAN, EtherCAT, SPI, I2C, AXI, TCP/IP, Sensors and Board Prototyping



Languages

- English, Arabic, French, German, Japanese



Publications and Conferences

- "FPGA Acceleration of a Multimodal Neural Network", Poster presentation at DATE 2020
- "Multimodal Neural Network Acceleration on a Hybrid CPU-FPGA Architecture: A Case Study", IEEE Access, 2022



Scholarships

- Mitsubishi Corporation Scholarship (2018—2020)
- JASSO Honors Scholarship (2017—2018)
- Lothar-und-Sigrid-Rohde-Stiftung (2013)



Other Activities

- Member of Machine Learning Tokyo (MLT)
- Member of Tokyo Code Crunch (2019 —2020)
- Maritime RobotX Challenge Team (2013—2014)
- IT Manager for TAG e.V. (2011—2013)



Interests

- Piano, Guitar, Cinephile, Cooking, Video Games, Traveling, Reading, Cultural exchange